

REMARKS

Claims 1-64 were examined in the present application. Claims 1-3, 28-31, 35-42, 45, 46, 48, 49, 62 and 63 have been rejected under 35 U.S.C. § 103 over Applicant's Admitted Prior Art (AAPA) in view of Harada, U.S. Patent No. 5,956,339. Claims 14, 15, 32, 33, 43 and 47 have been rejected under § 103 over AAPA in view of Fukushima, U.S. Patent No. 6,292,489. Claims 16-27, 34, 44 and 50-61 have been rejected under § 103 over AAPA in view of Fukushima and further in view of Harada. Claim 64 has been rejected under § 103 over AAPA in view of Harada and further in view of Fukushima.

By this amendment, claims 1, 4, 7, 10, 11, 17-32, 34, 35, 37-49, 51, 53, 55, 57, 59, 61 and 62 have been amended. Claims 2, 5, 8-9 and 12-13 have been cancelled without prejudice. In light of the above amendments and below remarks, reconsideration of the present application is respectfully requested.

In paragraphs 3-9 of the Office Action, claims 1-13, 28-31, 35-42, 45, 46, 48, 49, 62 and 63 have been rejected under § 103 over the AAPA in view of Harada. Applicant respectfully traverses this rejection.

Independent claim 1 requires that "the path calculating section identifies the candidate path as having a maximum remaining bandwidth of the plurality of the paths and identifies a link on the candidate path that has a minimum remaining bandwidth" and that the candidate path is used "when the minimum remaining bandwidth is not smaller than a predetermined value" Each of independent claims 28-31, 35, 37-42, 45, 46, 48, 49 and 62, contain the similar limitations of: identifying a candidate path that has a maximum remaining bandwidth of a plurality of paths, identifying a link on the candidate path that has a minimum remaining bandwidth, and determining whether the minimum remaining bandwidth is not smaller than a predetermined value

Nowhere do the AAPA, or Harada, alone or in combination, show or suggest, as required by the rejected claims an apparatus or a method that identifies a maximum remaining bandwidth path, identifies a link on the maximum remaining bandwidth path having a minimum remaining bandwidth, and determines whether the minimum remaining bandwidth is not smaller than a predetermined value. In rejecting the minimum remaining bandwidth limitation as found in original claims 2 and 5, the Office Action has pointed to Harada at col. 3, line 40-54 has teaching this limitation. Applicants respectfully disagree. The methodology of Harada in selecting a path is critically different. First of all, Harada will always select the path with the largest channel capacity (greatest bandwidth) (See Abstract and col. 8, lines 23-34). Only in the event that there are several paths with the same maximum bandwidth (i.e., ties) will the system of Harada resort to it's uniformity calculation.

As described with respect to Figs. 5 and 6 at col. 8, line 23 through col. 10, line 8, Harada calculates the average bandwidth of each of the tied candidate paths. It then determines the deviation of each of the links in the candidate paths from the average of that candidate path and determines a "uniformity index" for the candidate path. Harada finally selects its path based on the candidate path with the highest uniformity (col. 9, lines 62-65). Unlike the present invention, Harada does not explicitly look at the link with the minimum bandwidth and it certainly does not compare this minimum bandwidth to a predetermined value as required by the rejected independent claims. Applicants respectfully submit that by the process of Harada, a path that has a link with a lower bandwidth could be chosen by the system of Harada because it's "uniformity index" is greater than another path. Such a path would be explicitly rejected by the system and method of the present invention.

Neither AAPA, or Harada, alone or in combination, show or suggest, as required by the rejected claims: identifying a maximum remaining bandwidth path, identifying a link

on the maximum remaining bandwidth path having a minimum remaining bandwidth, and determining whether the minimum remaining bandwidth is not smaller than a predetermined value. In view of the above, withdrawal of the obviousness rejection of independent claims 1, 28-31, 35, 37-42, 45, 46, 48, 49 and 62, and their dependent claims 3, 36 and 63 is respectfully requested.

Each of independent claims 7 and 11 require a “relay server near to the congestion portion [that] stores the data and, when the congestion has been relieved, transfers the data to downstream.” In rejecting this limitation as it appeared in original claims 9 and 13, the Office Action relies on Harada at col. 7, lines 5-13. Applicant respectfully disagrees. Harada at this portion, and throughout its entire description, is completely silent with respect to a relay server that stores data and releases it when a congestion condition is relieved. The only discussion in Harada with respect to congestion is how to pick paths that reduce the probability of congestion, not how to deal with the congestion once it occurs.

None of the cited prior art teaches or suggests a “relay server near to the congestion portion [that] stores the data and, when the congestion has been relieved, transfers the data to downstream” are required by independent claims 7 and 11. Withdrawal of the obviousness rejection of independent claims 1 and 11 on the basis of AAPA and Harada is respectfully requested.

In paragraphs 10-12 of the Office Action, claims 14, 15, 32, 33, 43 and 47 have been rejected under § 103 over AAPA in view of Fukushima. Applicant respectfully traverses this rejection.

Independent claim 14 requires that “a priority given to a packet to be used for communications generated by at least one of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation is **lower than a**

priority given to a packet to be used for communications generated by a cache operation” (emphasis added). Independent claim 47 contains the same limitation as claim 14. Independent claims 32 and 43 similarly requires that the priority associated with a automatic cache updating operation, a link prefetching operation, and a cache server cooperating operation “is lower than priority information of a packet to be used for communications generated by a cache operation.”

In rejecting these claims, the Office Action states that “[a]lthough the AAPA shows substantial features of the claimed invention, it fails to show: A priority controllable router.” Applicant respectfully disagrees. The AAPA contains no discussion at all of assigning priority to packets, let alone giving a lower priority to automatic cache updating operations, a link prefetching operations, and a cache server cooperating operations than is given to normal cache communication packets. Similarly, Fukushima is silent with respect to priority is assigned (as opposed to handled) and certainly does not teach or suggest how to assign priority to automatic cache updating operations, a link prefetching operations, and a cache server cooperating operations, let alone assigning a lower priority to packets associated with these operations.

Neither AAPA, or Fukushima, alone or in combination, show or suggest, as required by the rejected claims of how priority to is assigned to packets, let alone giving a lower priority to automatic cache updating operations, a link prefetching operations, and a cache server cooperating operations than is given to normal cache communication packets. In view of the above, withdrawal of the obviousness rejection of independent claims 14, 32, 43 and 47, and their dependent claims 15 and 33 is respectfully requested.

In paragraphs 13-17, claims 16-27, 34, 44 and 50-61 have been rejected under § 103 over AAPA in view of Fukushima and further in view of Harada. Applicant respectfully traverses this rejection.

Claim 16 is dependent on claim 14 as discussed above. Claim 16 is patentable over the combination of AAPA, Fukushima and Harada for the reasons discussed above with respect to claim 14. Harada does not disclose how priority to is assigned to packets, let alone giving a lower priority to automatic cache updating operations, a link prefetching operations, and a cache server cooperating operations than is given to normal cache communication packets and thus does not cure the deficiencies of AAPA and Fukushima as previously explained. Withdrawal of the rejection of claim 16 is therefore respectfully requested.

Independent claims 17 and 19 each require that “a priority set for a packet generated by at least one of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation is set lower than a priority for a packet to be used for communications generated by a cache operation.” Similarly, independent claims 18, 20-27, 34 and 44 require “providing priority information lower than priority information of a packet to be used for communications generated by a cache operation.”

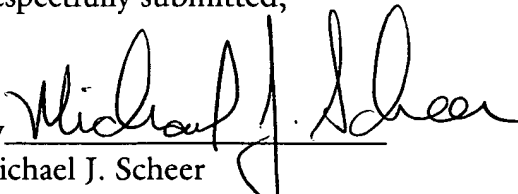
As described above with respect to claims 14, 32, 43 and 47, neither AAPA nor Fukushima teach or suggest how priority to is assigned to packets, let alone giving a lower priority to automatic cache updating operations, a link prefetching operations, and a cache server cooperating operations than is given to normal cache communication packets, Further, as described above with respect to claim 16, Harada does not cure the deficiencies of AAPA and Fukushima in teach or suggesting these limitations.

Withdrawal of the rejection of independent claims 17-27, 34, 44 and their dependent claims 50-61 on the basis of the combination of AAPA, Fukushima and Harada is therefore respectfully requested

Applicant has shown that all pending claims are patentable under § 103 over the cited art. In view of the above, each of the presently pending claims is in a condition for allowance and such action is earnestly solicited.

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Respectfully submitted,

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